CLAIMS

We claim:

1. An oligonucleotide array comprising an array of at least 25 different addresses, each address comprising a different capture probe selected from the group consisting of the sequences set forth in Table 1, Table 2, Table 3 and Table 4.

2. An array according to claim 1, wherein said capture probes are microspheres.

3. An array according to claim 1 or 2 wherein said array is a liquid array.

4. An array according to claim 1 or 2, wherein said array further comprises a solid support.

5. An array according to claim 1, wherein said addresses are microspheres and wherein said solid support comprises wells into which said microspheres are individually distributed.

6. An array according to claim 1, wherein each address is a different known location, and said wherein each capture probe is attached to one of said known locations.

7. An array according to claim 1, wherein said array comprises at least 50 different addresses, each address comprising a different capture probe selected from the group consisting of the sequences set forth in Table 1, Table 2, Table 3 and Table 4.

8. An array according to claim 1 wherein said array comprises at least 100 different addresses, each address comprising a different capture probe selected from the group consisting of the sequences set forth in Table 1, Table 2, Table 3 and Table 4.

9. A kit comprising at least twenty-five nucleic acids selected from the group consisting of sequences substantially complementary to the sequences set forth in Table I, Table II, Table III and Table IV or their complement.

10. A kit according to claim 9, wherein said kit comprises at least 50 nucleic acids selected from the group consisting of the sequences substantially complementary to the sequences set forth in Table I, Table II, Table III and Table IV or their complement.

11. A kit according to claim 9, wherein said kit comprises at least 100 nucleic acids selected from the group consisting of the sequences substantially complementary to the sequences set forth in Table I, Table II, Table III and Table IV or their complement.

12. A kit according to claim 9, wherein said nucleic acids further comprise at least a first universal priming sequence.

13. A kit according to claim 9, wherein said nucleic acid sequence further comprises a sequence substantially complementary to a target domain.

14. A method of immobilizing a target nucleic acid sequence, said method comprising:
a) attaching a first adapter nucleic acid to a first target nucleic acid sequence to form a modified first target nucleic acid sequence, wherein said first adapter nucleic acid comprises a sequence substantially complementary to a sequence selected from the sequences set forth in Table I, Table II, Table III, and Table IV;
b) contacting said modified first target nucleic acid sequence with an array comprising an array of at least 25 different addresses, each address comprising a different capture probe selected from the group consisting of the sequences set forth in Table 1, Table 2, Table 3 and Table 4, whereby said target nucleic acid sequence is immobilized.

15. A method of detecting a target nucleic acid sequence, said method comprising:
a) attaching a first adapter nucleic acid to a first target nucleic acid sequence to form a modified first target nucleic acid sequence, wherein said first adapter nucleic acid comprises a sequence substantially complementary to a sequence selected from the sequences set forth in Table I, Table II, Table III, and Table IV;
b) contacting said modified first target nucleic acid sequence with an array comprising:
an array of at least 25 different addresses, each address comprising a different capture probe selected from the group consisting of the sequences set forth in Table 1, Table 2, Table 3 and Table 4; and
c) detecting the presence of said modified first target nucleic acid sequence.

16. A method of detecting a target nucleic acid, said method comprising:
a) hybridizing a first adapter probe with a first target nucleic acid, said first adapter probe comprising a first domain that is complementary to said first target nucleic acid and a second domain, said second domain comprising a first sequence substantially complementary to a selected from the group consisting of the sequences set forth in Table I, Table II, Table III and Table IV to form a first hybridization complex;

b) contacting said first hybridization complex with an enzyme such that when said first domain of said adapter probe is perfectly complementary with said first target nucleic acid, said first adapter probe is altered resulting in a modified first adapter probe;

c) contacting said modified first adapter probe with a population of microspheres comprising at least a first subpopulation comprising a first capture probe, such that said first capture probe and said modified first adapter probe form a second hybridization complex; and

d) detecting the presence of said modified first adapter probe as an indication of the presence of said target nucleic acid.